VIRTUAL WELLS FOR USE IN HIGH THROUGHPUT SCREENING ASSAYS

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Abstract of **WO9939829**

Microtiter-like plates containing virtual wells formed by an arrangement of relatively hydrophilic domains within relatively hydrophobic fields are provided. Assay mixtures are confined to the hydrophilic domains of the virtual wells by the edges of the hydrophobic fields. The use of virtual wells allows one to perform homogeneous and capture and wash high throughput screening assays with assay mixtures having volumes on the order of about 100 nl to 10 mu l. Virtual wells also provide a means of easily moving fluids, which is particularly useful for simultaneous additions needed for kinetic studies and flash detection and washing. Methods for controlling evaporation during the dispensing of reagents as well as during incubation of high throughput screening utilizing microtiter-like plates containing virtual wells are also provided. The present invention also provides an inexpensive, disposable device for transferring small volumes of an entire array of compounds from a first microtiter-like plate to a second microtiter-like plate, preserving the spatial arrangement of the compounds. Methods of manufacturing and using the device are also provided.